

MEMORANDUM

Date: August 26, 1998

Subject: Meeting Minutes - Revised Preliminary MACT Floor for MON Continuous and Batch Chemical Processes

To: Miscellaneous Organic NESHAP Project File

I. Purpose

The purpose of this meeting was to get input from industry representatives on the revised preliminary maximum achievable control technology (MACT) floors for continuous and batch chemical processes covered under the Miscellaneous Organic NESHAP (MON).

II. Location and Date

EPA - Mutual Building
Durham, North Carolina
July 29, 1998

III. Attendees

The following individuals were present in person at the meeting:

Rasma Zvaners, Chemical Manufacturers Association (CMA);
David McCready, Union Carbide;
Tom Hmiel, BASF;
Stephen Gossett, Eastman;
Deb Chapin, Kodak;
Mike Stoneberger, Ethyl;
David Darling, National Paint and Coatings Association (NPCA);
John Wnek, Creanova Inc.;
Jay Sum, Union Camp Corporation;
Gail Murphree, NASA;
Mike Dixon, Dixon Environmental, for Synthetic Organic Chemical Manufacturers

**Meeting - Revised Preliminary MACT Floors
MON Continuous and Batch Processes
August 26, 1998**

Association (SOCMA);
Geoff Galster, SOCMA;
Pat Nevrincean, FMC Corporation;
Rick DiMenna, Rohm & Haas Co.;
Randy McDonald, EPA/ESD/OCG;
Reese Howle, Alpha-Gamma; and
Bill Gibbons, Alpha-Gamma.

In addition, the following individuals participated in the meeting via telephone:

Tim McGraw, United Institute of Synthetic Rubber Producers;
Carl Schultz, DuPont;
Barry Jenkins, Benjamin Moore;
Bob Nelson, NPCA;
Mark Collatz, Adhesives and Sealants Council;
Jim Pinto, Department of Navy; and
Jim Orgeron, LADEQ.

IV. Discussion

The meeting addressed the revised preliminary MACT floors for MON continuous and batch processes. A copy of the briefing materials is attached to this memorandum. The following paragraphs describe comments made during the meeting.

Wastewater. Mike Dixon asked how the data provided in Section 114 responses would be used to develop the MACT standard. Bill Gibbons explained that methodologies like those used for wastewater control in the Hazardous Organic NESHAP (HON) would be considered. Mr. Dixon asked if the data would be used to calculate the baseline emissions. Randy McDonald stated the baseline emissions may be difficult to quantify. Mr. Gibbons stated the MON batch wastewater data has the necessary information to calculate the emissions, but the MON continuous wastewater data are very limited. Mr. McDonald noted that the HON wastewater incremental analysis was done on a stream basis. He also mentioned that it may not be worth the effort required to do this type of analysis for the MON. Mike Dixon summarized that the approach to determine the MON wastewater MACT floor would be a cost effectiveness calculated on a stream basis. He also stated he understood the national impacts would be extrapolated from the individual stream analysis. Randy McDonald agreed this would be the approach. He noted that the baseline emissions may be difficult to quantify. Reese Howle noted that Alpha-Gamma probably could do a good job with the MON batch wastewater streams since the 500

**Meeting - Revised Preliminary MACT Floors
MON Continuous and Batch Processes
August 26, 1998**

streams in the database should represent all wastewater streams nationwide. Mr. Howle noted the MON continuous wastewater data was really from a 114 effort around 1985 for the HON.

Tom Hmiel asked whether the MON wastewater standard might consider soluble and partially-soluble HAPs as was done in the Pharmaceuticals Production NESHAP (Pharma). Randy McDonald stated this hasn't been considered at this point. Bill Gibbons mentioned this was considered for the surface coating manufacturing portion of the MON, but not for MON continuous and batch processes. Mr. Hmiel noted that for BASF facilities, there could be wastewater streams that are soluble, highly degradable, won't volatilize, and can be treated in the wastewater treatment plant. However, he also stated that other BASF facilities may not have streams like this. Mike Stoneberger agreed the HON wastewater standard may cause problems. He noted that HAPs such as methanol are biodegradable and the HON wastewater standard may force facilities to put energy into steam stripping a HAP that could be handled easily with biodegradation. Randy McDonald stated that costs and impacts for wastewater treatment of soluble and non-soluble HAPs has already been done in the Pharma rule and EPA will take a hard look at this data. Mr. McDonald also mentioned the Pharma rule had a problem defining a process and the final definition could create problems for the MON using the Pharma wastewater cost data.

David McCready asked if facilities could be given an option to comply with the HON. Though this may be a more stringent requirement, Mr. McCready noted that this alternative would simplify compliance for some Union Carbide facilities. Tom Hmiel stated this would also be the case for some BASF facilities and he would like to have the HON as a compliance alternative.

Equipment Leaks. Steve Gossett asked if the continuous and batch equipment leak data were combined for a common preliminary MACT floor. Bill Gibbons answered that the data were combined for a common MACT floor. Mike Dixon and others asked why this was changed from the March 17, 1998 memorandum in which there were separate equipment leak MACT floors for MON continuous and batch processes. He explained batch processes don't lend themselves to the control techniques used in the HON. Mr. Dixon explained further that a batch process may use a particular line only a few times a year compared to a continuous process which will use lines continuously. Randy McDonald explained that if the MACT floors are separated, EPA would still try to cost justify the HON for batch and continuous processes. He also explained that EPA hasn't made a final decision on combining MON continuous and batch data for wastewater, equipment leaks, and storage tanks.

Pat Nevrincean asked how the top 12 percent was determined; she stated it appeared to her that the top 12 percent was the LA non-HON leak detection and repair

**Meeting - Revised Preliminary MACT Floors
MON Continuous and Batch Processes
August 26, 1998**

(LDAR) program. Bill Gibbons explained the table in Attachment A had the most stringent LDAR programs to the right with less stringent programs to the left. Steve Gossett thought many plants would take issue that the TX 28MID LDAR program is more stringent than the HON since the TX 28MID program does not require all connectors to be monitored. Mr. Gossett also disagreed with the statement in the March 17, 1998 equipment leak memorandum that the South Coast Air Quality Management District (SCAQMD) Rule 1173 LDAR program is equivalent to the Subpart VV LDAR program. Steve Gossett stated that based on his review of SCAQMD Rule 1173 he thought this rule was more stringent than Subpart VV. In particular, Mr. Gossett noted these differences make SCAQMD Rule 173 more stringent than Subpart VV: 1) A minor leak was defined as a component with a leak greater than 1,000 ppm; 2) A major leak was defined as a component with a leak greater than 10,000 ppm and a facility was required to fix a major leak within 5 days; 3) The repair time for a liquid leak was 1 day; and 4) A leak was defined as a violation. Bill Gibbons explained that SCAQMD Rule 1173 was considered to be more stringent than Subpart VV and thus was placed to the right of Subpart VV in the Attachment A table.

Mike Dixon asked if there was new data which led to the batch and continuous processes being considered together. Randy McDonald stated there was no new data and that the main consideration was the format of the standard. Mr. Dixon stated he didn't not think this portion of the MON standard needed to be uniform.

Mr. McDonald asked what industry thought the equipment leak floor was for MON continuous and batch processes. Steve Gossett stated he was not sure, but he thought the MACT floor for continuous processes was less stringent than the HON. Steve Gossett thought the SCAQMD Rule 1173 was the most stringent LDAR program for batch processes. Mike Dixon and Steve Gossett suggested the equipment leak MACT floor analysis be done on a process basis instead of a facility basis. Bill Gibbons stated the data are available to do the analysis on a process basis and agreed to do this analysis. Tom Hmiel thought the data would be most representative if considered on a process basis. David McCready stated that some Union Carbide facilities may do the HON LDAR program for all processes (i.e., facilities in TX and LA) while other facilities may do a variety of LDAR programs, depending on the process and the HAP.

The stringency of LDAR programs was discussed. Reese Howle explained that Alpha-Gamma tried to order the LDAR programs based on effectiveness of controlling HAP emissions, not on the cost of the program. Mr. Howle pointed out that a LDAR program with a lower definition for a leak (e.g., 500 ppm vs. 1,000 ppm) but without monitoring connectors could be more effective in reducing HAP emissions than a program which included monitoring connectors, but had a higher definition of a leak. He also pointed out that the MACT floor should be based on stringency of reducing HAP emissions, not on which LDAR program is most costly. Pat Nevrinean stated that industry

tends look at the cost of a LDAR program, not necessarily the effectiveness. Mike Dixon mentioned there is not much difference between a leak detected at 500 ppm and a leak detected at 1,000 ppm. Tom Hmiel noted that the big difference in emissions came between detecting a leak at 500 ppm or 1,000 ppm compared to detecting a leak at 10,000 ppm. Alpha-Gamma agreed to review the LDAR program stringencies.

Jim Pinto asked if explosives manufacturers would get special consideration with respect to the LDAR program since leaks cannot be detected during processing due to safety and personnel concerns. Randy McDonald stated that EPA had not evaluated this yet.

Process Vents. Mike Dixon asked for clarification regarding the applicability for MON batch process vents. In particular, Mr. Dixon wanted to know if the applicability was after the last product recovery device, i.e., uncontrolled emissions, or after the last control device. Randy McDonald explained the applicability is determined after the last product recovery device and before any control devices, i.e., uncontrolled emissions.

David McCready asked if this was a presumptive MACT, and, if this was the case, if the cutoff would be lower for the MACT. Reese Howle explained that this is not a presumptive MACT, it is the preliminary MACT floor. Mr. Howle also explained the cutoff would probably not change since the analysis was based on the Batch ACT which was determined on a cost effectiveness basis. Randy McDonald added that the Batch ACT was based on a cost effectiveness of \$2,500/Mg and lately the Office of Management and Budget (OMB) has been using \$3,500/Mg as a measure of cost effectiveness. Mr. McDonald noted the increased cost effectiveness probably would not change the emission cutoff very much.

Tom Hmiel noted that other standards such as the HON that required 98 percent control of HAP emissions from process vents also allowed an outlet concentration of 20 ppm. He asked if this would be allowed in the MON. Reese Howle explained this would be allowed in the MON. Mr. Hmiel suggested the concentration values be reviewed to determine the correct concentration; he noted the concentration cutoff may be greater than or less than 20 ppm.

Mike Dixon asked how the process vent data were derived. Bill Gibbons explained that 75 to 80 percent of the facilities had to be contacted to clarify the data provided in the Section 114 responses. In particular, Mr. Gibbons stated the telephone calls clarified if the emissions provided were controlled or uncontrolled emissions, identified common control devices (i.e., one flare for the facility or multiple flares), and distinguished between product recovery devices and control devices. He also explained the preliminary MACT floor was based on common emission points which may have emissions from multiple processes. Mr. Dixon and David McCready expressed a desire to see the detailed process vent data. Mr. McCready wanted to verify that no inorganics (e.g., HCl) were being controlled by a

combustion control device that was used to determine the preliminary MACT floor. Mr. Gibbons said he could provide this data to CMA and SOCMA.

Mike Dixon asked what the emission cutoff would be where less than 6 percent of the MON batch dedicated process had combustion control. Bill Gibbons stated he did not know what the cutoff would be, but he could determine this value. Reese Howle mentioned that even if the emission cutoff was greater than 16,111 lb/yr, Alpha-Gamma would consider a cutoff of 16,111 lb/yr based on cost effectiveness in options above the floor. Tom Hmiel asked if the emission cutoff of 16,111 lb/yr was done on a process vent basis or on a process basis. Mr. Gibbons explained the emissions cutoff was done on a process vent basis. Randy McDonald mentioned the emission cutoff in the Batch ACT was done on a process basis and the issue of process vent basis versus process basis will need to be addressed.

Mike Dixon had concerns about the equation of the line. Specifically, Mr. Dixon thought the data points with large emission rates seemed to skew the line. He also wanted to know how the value of the flow was determined. Reese Howle stated the line seemed to match the data points well. Bill Gibbons explained the flow rates that corresponded with large emissions rate seemed to be too low. Mr. Gibbons also explained the flow rates were determined by adding the flow rates from the individual vent streams that were manifolded together into a single emission point.

David McCready asked about control on non-dedicated MON batch vents, since this analysis was only based on MON batch dedicated vents. Bill Gibbons explained there was no flow data for the non-dedicated vents. Mr. Gibbons and Reese Howle explained further that Alpha-Gamma did analyses comparing the dedicated and non-dedicated process vents and found them to have similar characteristics. Mike Dixon asked about the similarities, but Mr. Gibbons and Mr. Howle could not recall the details of the analyses.

Mike Stoneberger asked if inorganic HAP emissions were considered separately from organic HAP emissions. Bill Gibbons explained they were not separated on a HAP basis, but on a control device basis. Randy McDonald added halogens could be split out in the MON like they were in the HON. Steve Gossett suggested that the specific halogen HAPs be listed, since some halogens like hydrogen bromide do not scrub out well.

Tom Hmiel encouraged the use of annual averages in the standard, since the data gathered and analyses were done on an annual average basis.

Mike Dixon asked why there is not a TRE equation for batch processes. Randy McDonald explained the equations in the Batch ACT really are TRE equations for batch processes.

The issue of how to define a process was discussed. Steve Gossett noted there are problems defining a process on an equipment basis, especially for non-dedicated processes. Randy McDonald agreed there are problems defining a process using equipment. He stated a process should be defined on a product basis.

Other Comments

During the discussions on MACT floors, industry representatives stated facilities which have applied controls after 1990 to comply with the lowest achievable emission rate (LAER) should not be considered in determining the MACT floor. The representatives noted this was an exemption in the Clean Air Act. Randy McDonald, Bill Gibbons, and Reese Howle stated they would look at this issues. They also asked CMA to provide a copy of this documentation.

David McCready asked about the schedule for the MON rule. Randy McDonald explained the rule is to be promulgated on November 15, 2000 with the rule proposal set for 14 months prior to this date. Mr. McCready asked when a draft rule might be ready. Mr. McDonald responded EPA would do well to have a draft rule by the end of 1998. Tom Hmiel asked if industry could suggest language to use in the regulation, e.g., use the definition of a process from a P&R rule. Randy McDonald stated this would be fine as long as the suggested language was sent to EPA. Reese Howle reminded everyone that the regulation must be in plain English. Mike Dixon noted that Subpart YYY was written in plain English, but was difficult to understand. One commenter noted the term "you" got confusing in Subpart YYY. He explained it was difficult within the regulation to distinguish whether "you" referred to a process or the facility.

Mr. McCready asked if there would be provisions in MON for existing controls. For example, the required MACT control is 98 percent control for a process vent and an existing process vent has 95 percent control. Randy McDonald stated this really hasn't been considered. He explained further that other rules have considered this to meet the MACT level of control if this control device was considered in setting the MACT floor. Steve Gossett asked for clarification. Mr. McDonald explained it would not be incrementally cost effective to go from 90 percent control on a storage tank to 95 percent control. However, the storage tank would pass the MACT floor test since this tank was part of the MACT floor calculation. He added that the Office of General Counsel (OGC) has approved this methodology and suggested that participants review the language in the HON.

Mike Stoneberger asked what happens if an emission source has a level of control higher than the MACT control level. Randy McDonald stated this would be handled by emissions averaging, which will be allowed in the MON. Mr. McDonald explained further the emissions averaging would probably be only 20 emissions points since this is what OGC approved in negotiations. Mr. Stoneberger asked how emissions bubbling would be handled. Randy McDonald stated EPA is very sensitive to emissions bubbling since this approach may result in fewer violations, i.e., one violation per facility as opposed to one violation per process.

Tom Hmiel asked about averaging times used for compliance. Randy McDonald

stated the Pharma regulation used a term called "block average", which is defined as the length of the batch or a daily average. Mike Dixon noted it would be difficult to define an annual average for a multi-purpose unit.

Initial compliance and on-going compliance were discussed. Steve Gossett noted problems with monitoring parameters for on-going compliance based on an initial compliance test, e.g., the range of parameters in an initial compliance stack test. Mr. Gossett suggested EPA allow facilities to monitor parameters in accordance with the manufacturer's design specifications. Tom Hmiel added that BASF facilities subject to the Pharma had problems complying with vents manifolded together. Randy McDonald stated the facility sets the worse case conditions and these results set the limits on parameters. Mr. Gossett stated he understood this and explained this is very difficult to do, especially for non-dedicated batch processes that may only run a few times a year. Mr. McDonald noted the facility has the flexibility to set as many parameters as it desires. He also added it may be easier to comply with the outlet concentration of 20 ppm. Randy McDonald suggested participants review the management of change in the Pharma preamble scheduled to be published on July 30, 1998. Tom Hmiel noted this would be an important issue for multi-purpose facilities. Mr. McDonald suggested the initial compliance should be separate from the ongoing compliance. He also suggested that compliance for batch and continuous processes be handled separately. For continuous compliance, Randy McDonald thought the methodology in the HON should be used. Tom Hmiel expressed approval for this approach and explained compliance for batch processes would be difficult. Mike Dixon thought engineering calculations could be done to a certain level with a stack test required below that level. Mr. McDonald noted there are batch equations in the Polymer and Resins NESHAPs and in the Pharma. Mr. Dixon asked how on-going compliance was handled. Randy McDonald stated these equations could be used for condensers in Pharma. Steve Gossett asked about the 10 ton/yr cutoff in the Pharma. Mr. McDonald explained if a control device receives 10 tons/yr of emissions, then the control device must be tested. Otherwise, he added, engineering calculations could be used to demonstrate compliance. Tom Hmiel asked the basis of the 10 tons/yr cutoff. Randy McDonald explained this is the cutoff for a major source. He also added that since there are no cutoffs in Pharma, this was a way to get around requiring a stack test for every condenser. Tom Hmiel asked which EPA Method(s) would be used for initial compliance tests. Mr. McDonald responded that EPA Methods 25A or 18 could be used. Tom Hmiel stated that the HAPs may differ from day-to-day. He also added that the detection limits may be high to handle a spike, but may not be representative for daily operations. Mike Dixon noted that multi-component streams may be difficult to handle. Randy McDonald stated this was handled in the Pharma. Tom Hmiel stated that pharmaceutical operations were more consistent than MON batch operations. Mr. McDonald reiterated that testing would be done at the worst case situation and the parameters from the test would set the

range for on-going compliance. David McCready asked about compliance for flares. Randy McDonald explained parameter monitoring is used to demonstrate compliance for flares.

Tom Hmiel asked how predominate use could be determined for multi-purpose units. He added that it may be difficult to determine predominate use for a regulation that is a "catch-all" regulation. Mike Dixon suggested that potential to emit methodologies might provide a solution.

Summary of Action Items

The following is the list of action items from the meeting.

EPA will:

For wastewater emission control, consider allowing options above the floor like Pharma or HON.

Alpha-Gamma will:

1. For the equipment leak MACT floor:
 - a. Do the analysis on a process basis.
 - b. Consider whether continuous and batch processes should have the same MACT floor or separate MACT floors.
 - c. Review the LDAR program stringencies.
2. For storage tanks, do the analysis on a facility basis.
3. For process vents:
 - a. Send detailed data showing which vents made up the MACT floor to CMA and SOCMA.
 - b. Make sure vents making up the MACT floor with combustion control do not include control of HCl and metal emissions.
 - c. Determine the largest cutoff below which the MACT floor is no control.
 - d. Determine whether controls should be considered on a process basis or a process vent basis.

**Meeting - Revised Preliminary MACT Floors
MON Continuous and Batch Processes
August 26, 1998**

CMA will:

Provide EPA with the Clean Air Act documentation that removes emission sources that apply LAER from the MACT floor consideration.

SOCMA and CMA will

Use the data provided to reproduce the MACT floor calculations.

Attachment